

CLAIMS

1. A medical guide wire in which at least a fluororesin coating layer is formed on a surface of a metal wire,
5 wherein particulate matter is present in the fluororesin coating layer; and
wherein the fluororesin coating layer covers the particulate matter and at least some of the particulate matter is formed in surface protrusion-shaped projections.
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2. The medical guide wire according to claim 1,
wherein a primer layer is further formed within the fluororesin coating layer;
wherein particulate matter is present in at least one layer selected
15 from the primer layer and the fluororesin coating layer; and
wherein the fluororesin coating layer of the outermost layer covers the particulate matter and at least some of the particulate matter is formed in surface protrusion-shaped projections.
- 20 3. The medical guide wire according to claim 1 or 2,
wherein the fluororesin coating layer includes particulate matter, the particulate matter is fluororesin, and the fluororesin coating and the particulate matter are baked as a single unit.
- 25 4. The medical guide wire according to any one of claims 1 to 3,
wherein the fluororesin coating layer and the particulate matter include at least one selected from the group consisting of polytetrafluoroethylene (PTFE), tetrafluoroethylene-perfluoroalkylvinyl
ether copolymer (PFA), polychlorotrifluoroethylene (PCTFE),
30 polyvinylidene fluoride (PVDF), polyvinyl fluoride (PVF), tetrafluoroethylene-hexafluoropropylene copolymer (FEP), and tetrafluoroethylene-ethylene copolymer (PETFE).
5. The medical guide wire according to any one of claims 1 to 4,
35 wherein the thickness of the fluororesin coating layer is at least 1 μm and not more than 50 μm .

6. The medical guide wire according to claim 1,
wherein the average height of the projections is at least 0.1 μm
and not more than 20 μm .
- 5 7. The medical guide wire according to claim 1,
wherein the fluororesin coating layer surface has a mixture of flat
portions and numerous protrusion-shaped projections.
- 10 8. The medical guide wire according to any one of claims 1, 6, or 7,
wherein the density of the protrusion-shaped projections is at
least an average of 1 per 0.01 mm^2 .
- 15 9. The medical guide wire according to claim 2,
wherein the particulate matter is present in the primer layer, and
the particulate matter is fluororesin or a heat-resistant substance having
a higher melting point than the fluororesin coating layer.
- 20 10. The medical guide wire according to claim 9,
wherein the particulate matter is at least one selected from the
group consisting of glass particles, metal particles, plastic particles,
inorganic particles, and ceramic particles.
- 25 11. The medical guide wire according to claim 9,
wherein an average particle diameter of the particulate matter is
at least the film thickness of the primer layer, and the average particle
diameter is in a range of 0.5 to 30 μm .
- 30 12. A method for manufacturing a medical guide wire in which at least
a fluororesin coating layer is formed on a surface of a metal wire,
comprising:
mixing particulate matter for projections into a fluororesin
dispersion to prepare a coating solution; and
applying the solution to the surface of the metal wire and drying
the solution, and then baking by heating to at least the melting point of
35 the fluororesin in the fluororesin dispersion; thereby
causing particulate matter to be present in the fluororesin coating
layer;

wherein the fluororesin coating layer covers the particulate matter and at least some of the particulate matter is formed in surface protrusion-shaped projections.

5 13. A method for manufacturing a medical guide wire in which a primer layer and a fluororesin coating layer are formed in that order on a surface of a metal wire, comprising:

mixing particulate matter into at least one solution selected from a primer solution and a fluororesin dispersion solution;

10 applying the primer solution and the fluororesin dispersion solution to the surface of the metal wire in that order and drying them; and

then, in a final step, baking by heating to at least the melting point of the fluororesin in the fluororesin dispersion such that the
15 fluororesin coating layer of the outermost layer covers the particulate matter and at least some of the particulate matter is formed in surface protrusion-shaped projections.

14. The method for manufacturing a medical guide wire according to
20 claim 12 or 13,

wherein a fluororesin solid content concentration in the fluororesin dispersion solution for coating is 20 to 60 wt%.

15. The method for manufacturing a medical guide wire according to
25 any one of claims 12 to 14,

wherein when A is an amount of the particulate matter that is added and B is the solid content of the fluororesin dispersion, then $[A/(A+B)] \times 100$ is 1 to 60 wt%.

30 16. The method for manufacturing a medical guide wire according to claim 12 or 13,

wherein an average particle diameter of the particulate matter is 0.5 to 30 μm .

35 17. The method for manufacturing a medical guide wire according to claim 13,

wherein particulate matter is mixed into the primer resin solution

to prepare a coating solution.

18. The method for manufacturing a medical guide wire according to claim 17,

5 wherein the amount of particulate matter that is present is 1 to 50 wt% with respect to the solid content mass of the primer resin solution.

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